

2021 Code Version

STATEMENT OF VUSBC SPECIAL INSPECTIONS & STRUCTURAL OBSERVATIONS HECO-6a

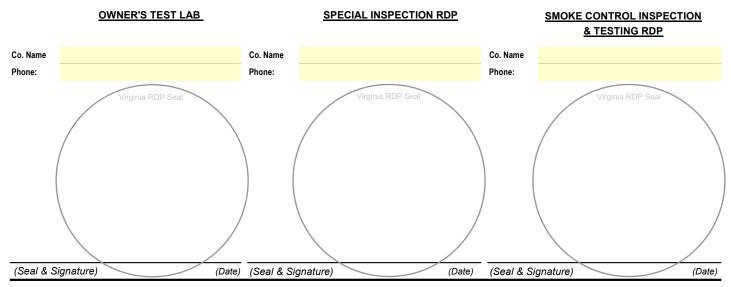
University Building Official Sterrett Facilities Comples, 30A VTUBO-g@vt.edu

DATE:

INSTITUTION/AGENCY:	
PROJECT TITLE:	
UBO NUMBER:	
PROJECT MANAGER	

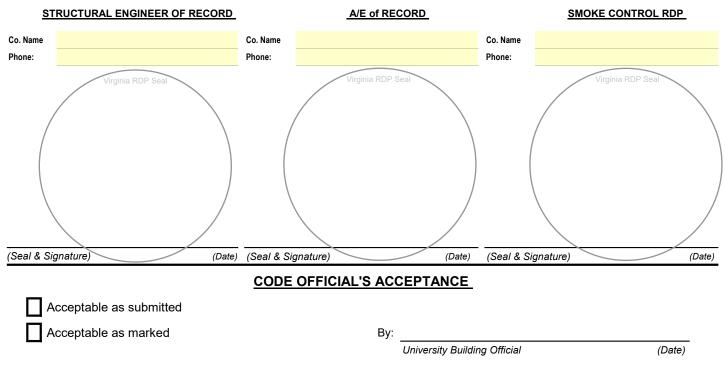
The following firms are designated to perform the Special Inspections required herein. The firm has the experience, qualifications, certifications and/or licenses required to perform the functions indicated.

OWNER'S TESTING AND INSPECTION SERVICE



Inspection and/or Testing responsibilities are indicated on the attached List of Special Inspections, Form HECO-6b. Copies of all test data and reports shall be provided to the Architect/Engineer of Record and to the Owner's Project Manager on a timely basis. The Contractor and UBO shall be notified of all deficiencies and discrepancies in a timely manner so that corrective action can be taken.

PROFESSIONAL OVERSIGHT AND CERTIFICATION





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2021 SPECIAL INSPECTIONS

Project Code: Rev. 03/25 **INSPECTION / TEST BY:** TYPE OF INSPECTION SPECIAL INSPECTOR/ RDP OF MATERIAL / REFERENCE (RDP add lines as needed to identify other required items) **Reauired?** OTHER ACTIVITY **TEST LAB** RECORD CONTRACTOR RESPONSIBILITY (see Note #7) Special Inspections for Wind Resistance and/or Seismic resistance. Structure \Box VCC 1704.6 Continuous Π STRUCTURAL OBSERVATIONS (see Note #6) Structural observations for structures as identified by the structural observer in a written statement. VCC 1704.6 Structure Π FOUNDATIONS Verify material below shallow foundations are adequate to achieve the design bearing capacity. VCC T1705.6 #1 \Box Periodic Verify excavation is extended to proper depth and has reached proper material. VCC T1705.6 #2 Π Periodic Perform classification and testing of compacted fill materials. VCC T1705.6 #3 Π Periodic During fill placement verify conformance to geotechnical report. VCC T1705.6 #4 Π Continuous Prior to fill, inspect subgrade to verify prepared properly. VCC T1705.6 #5 Π Periodic Install equipment, pile dimensions, tip elevations, final depth, final installation torque and other Helical Pile Π VCC 1705.9 Continuous pertinent installation data. VCC 1705.10 **Deep Foundations** Reasonable doubt as to the structural integrity. Π Continuous Note #8 Verify element materials, sizes and lengths. VCC T1705.7 #1 **Deep Foundations** Continuous П **Deep Foundaitons** Determine capacities of test elements and conduct additional load tests. VCC T1705.7 #2 Π Continuous **Deep Foundations** Inspect driving operations and maintain complete and accurate records. Π VCC T1705.7 #3 Continuous **Deep Foundations** Record placement and install criteria. Π VCC T1705.7 #4 Continuous For steel elements, perform special inspections per 1705.2 VCC T1705.7 #5 **Deep Foundations** Π Continuous Deep Foundations For concrete elements, perform special inspections per 1705.3 VCC T1705.7 #6 Continuous Π For speciality elements, perform additional inspections per the RDP. **Deep Foundations** Π VCC T1705.7 #7 Continuous Inspect drilling operations and maintain complete and accurate records. Cast Deep Fnds Π VCC T1705.8 #1 Continuous VCC T1705.8 #2 Cast Deep Fnds Record placement and install criteria. Π Continuous For concrete elements, perform special inspections per 1705.3 Cast Deep Fnds П VCC T1705.8 #3 Continuous Π

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				INSPECTION / TEST I		BY:
MATERIAL /	TYPE OF INSPECTION	DominodQ	DEFEDENCE	SPECIAL INSPECTOR/	RDP OF	071155
ACTIVITY	(RDP add lines as needed to identify other required items)	Required?	REFERENCE	TEST LAB	RECORD	OTHER
CONCRETE CO	DNSTRUCTION					
Concrete	Reinforcement, including prestressing tendons, verfiy placement.		VCC T1705.3 #1	Periodic		
Concrete	Reinforcing bar welding.		VCC T1705.3 #2	Continuous Periodic		
Concrete	Inspect anchors cast in concrete		VCC T1705.3 #3	Periodic		
Concrete	Inspect anchors post-installed.		VCC T1705.3 #4	Continuous Periodic		
Concrete	Verify use of required design mix		VCC T1705.3 #5	Periodic		
Concrete	Concrete test specimens		VCC T1705.3 #6	Continuous		
Concrete	Concrete and shotcrete placement for proper application.		VCC T1705.3 #7	Continuous		
Concrete	Verify maintenance of specified curing temperature and techniques.		VCC T1705.3 #8	Periodic		
Concrete	Prestressed concrete application of forces and grouting.		VCC T1705.3 #9	Continuous		
Concrete	Precast concrete member erection.		VCC T1705.3 #10	Periodic		
Concrete	Precast concrete diaphragm connections or reinforcement at joints classified MDE or HDE.		VCC T1705.3 #11	Continuous		
Concrete	Tolerances of precast concrete diaphragm connections.		VCC T1705.3 #12	Periodic		
Concrete	Verify in-situ concrete strength.		VCC T1705.3 #13	Periodic		
Concrete	Inspect formwork.		VCC T1705.3 #14	Periodic		
STEEL CONST	RUCTION					
Fabricator	Quality Control Inspection Of Shop		VCC 1704.2.5	Periodic	Note #2	
Steel	Welding		AISC 360-16 N5.1	Periodic		
Steel	High Strength Bolting		AISC 360-16 N5.1	Periodic		
Steel	Galvanized structural steel		AISC 360-16 N5.1	Periodic		
Decking	Cold Form Steel Decking		VCC 1705.2.2	Periodic		
Joist	1a open web joist and joist girders end connections.		VCC T1705.2.3	Periodic	Note #2	
Joist	1b1 open web joist and joist girder standard bridging.		VCC T1705.2.3	Periodic	Note #2	
Joist	1b2 open web joist and joist girder other bridging.		VCC T1705.2.3	Periodic	Note #2	
Trusses	Cold form steel trusses, span >60 feet		VCC 1705.2.4	Periodic	Note #2	

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MATERIAL / Activity	<u>TYPE OF INSPECTION</u> (RDP add lines as needed to identify other required items)		REFERENCE	INSPECTION / TEST BY: RDP OF RECORD		
MASONRY CONSTRUCTION				Level 1	Level 2	Level 3
Indicate Quality Assure			TMS 402 3.1			
Masonry - Verify	Verification of compliance of submittals.		TMS 602 1.6 Table 3	Note #2	Note #2	Note #2
Masonry - Verify	Verify f'm and f'AAC.		TMS 602 1.6 Table 3		Note #2	Note #2
Masonry - Verify	Verify slump flow and Visual Stability Index for self consolidating grout.		TMS 602 1.6 Table 3		Note #2	Note #2
Masonry - Verify	Verfiy f'm and f'AAC, for every 5,000 sq.ft.		TMS 602 1.6 Table 3			Note #2
Masonry - Verify	Verify proportions as delivered to the project site.		TMS 602 1.6 Table 3			Note #2
Masonry - Inspect	1a Proportions of site-prepared mortar.		TMS 602 1.6 Table 4		Periodic	Periodic
Masonry - Inspect	1b Grade and size of prestressing tendons and anchorage.		TMS 602 1.6 Table 4		Periodic	Periodic
	1c Grade, type and size of reinforcement, connectors, anchor bolts, and prestresssing tendons and					
Masonry - Inspect	anchorage.		TMS 602 1.6 Table 4		Periodic	Periodic
Masonry - Inspect	1d Prestressing technique		TMS 602 1.6 Table 4		Periodic	Periodic
Masonry - Inspect	1e Properties of thin-bed mortar for AAC masonry		TMS 602 1.6 Table 4		Continuous Periodic	Continuous
Masonry - Inspect	If sample panel construction		TMS 602 1.6 Table 4		Periodic	Continuous
Masonry - Inspect	2a Grout Space		TMS 602 1.6 Table 4		Periodic	Continuous
Masonry - Inspect	2b Placement of prestressing tendons and anchorages		TMS 602 1.6 Table 4		Periodic	Periodic
Masonry - Inspect	2c Placement of reinforcement, connectors, and anchor bolts		TMS 602 1.6 Table 4		Periodic	Continuous
Masonry - Inspect	2d Proportions of site-prepared grout and prestressing grout for bonded tendons.		TMS 602 1.6 Table 4		Periodic	Periodic
Masonry - Inspect	3a Materials and procedures with the approved submittals		TMS 602 1.6 Table 4		Periodic	Periodic
Masonry - Inspect	3b Placement of masonry units and mortar joint construction		TMS 602 1.6 Table 4		Periodic	Periodic
Masonry - Inspect	3c Size and location of structural members		TMS 602 1.6 Table 4		Periodic	Periodic
	3d Type, size, and location of anchors, including other details of anchorage of masonry to structural					
Masonry - Inspect	members, frames, or other construction.		TMS 602 1.6 Table 4		Periodic	Continuous
Masonry - Inspect	3e Welding of reinforcement		TMS 602 1.6 Table 4		Continuous	Continuous
Masonry - Inspect	3f Preparation, construction, and protection of masonry during cold or hot weather (<40F or >90F)		TMS 602 1.6 Table 4		Periodic	Periodic
Masonry - Inspect	3g Application and measurement of prestressing force.		TMS 602 1.6 Table 4		Continuous	Continuous
Masonry - Inspect	3h Placement of grout and prestressing grout for bonded tendons is in compliance.		TMS 602 1.6 Table 4		Continuous	Continuous
Masonry - Inspect	3i Placement of AAC masonry units and construction of thin-bed mortor joints.		TMS 602 1.6 Table 4		Continuous Periodic	Continuous
Masonry - Inspect	4 Observe preparation of grout specimens, mortar specimens, and/or prisms.		TMS 602 1.6 Table 4		Periodic	Continuous
Glass Unit	Glass unit masonry and masonry veneer in Risk Category IV		VCC 1705.4.1			
Vertical Masonry	Vertical masonry foundation elements		VCC 1705.4.2			

					INSPECTION / TEST BY:			
MATERIAL / ACTIVITY	TYPE OF INSPECTION (RDP add lines as needed to identify other required items)	Required?	REFERENCE	SPECIAL IN TEST		RDP OF Record	OTHER	
WOOD CONS-	TRUCTION	-	-					
Wood	Wood material labeling		VCC 1703.5	Peri	odic	Note #2		
Wood	Quality Control Inspection Of Shop Fabrication		VCC 1704.2.5	Peri	odic	Note #2		
Nood	High-load Diaghragms		VCC 1705.5.1	Peri	odic			
Wood-Trusses	Metal-plate counnected wood trusses, span >60 feet		VCC 1705.5.2	Peri	odic	Note #2		
Mass Timber	Anchorage and connections to timber deep foundation systems		VCC T1705.5.3	Peri	odic			
Mass Timber	Inspect erection of mass timber construction		VCC T1705.5.3	Peri	odic			
	Inspect connections where installation methods are required to meet design loads - Threaded							
Mass Timber	connections		VCC T1705.5.3	Peri	odic			
	Inspect connections where installation methods are required to meet design loads - adhesive anchors -							
Mass Timber	sustained tension loads		VCC T1705.5.3	Contir	nuous			
	Inspect connections where installation methods are required to meet design loads - other adhesive							
Mass Timber	anchors		VCC T1705.5.3	Peri	odic			
Mass Timber	Inspect connections where installation methods are required to meet design loads - bolted connections		VCC T1705.5.3	Peri	odic			
	Inspect connections where installation methods are required to meet design loads - concealed							
Mass Timber	connections.		VCC T1705.5.3	Peri	odic			
Sealing	Sealants or adhesives where required by section 703.7		VCC 1705.20	Peri	odic			
	RESISTANCE							
	gory B, where $V \ge 150$ mph or Wind exposure category C or D, where $V \ge 140$ mph							
	Field gluing, nailing, bolting, anchoring, and other fastening of MWFRS, including wood shear walls,				0			
Wood	wood diaphragms, drag struts, braces, and hold downs.		VCC 1705.12.1	Continuous	Periodic			
	Welding, screw attachment of MWFRS, including shear walls, braces, diaphrams, collectors, and hold			CONTINUOUS	r 6i IUUIU			
Cold Formed Steel	downs.		VCC 1705.12.2	Periodic				
	Fastening of the roof covering, roof deck, roof framing connections, exterior wall covering, and wall							
Components	connections to roof and floor diaphragms and framing.		VCC 1705.12.3	Peri	odic			
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MATERIAL /	TYPE OF INSPECTION	DenvinedO	DEFEDENCE	SPECIAL INSPECTOR/	RDP OF	
ACTIVITY	(RDP add lines as needed to identify other required items)	Required?	REFERENCE	TEST LAB	RECORD	OTHER
SEISMICRESISTANCE						
Steel	Steel in SFRS for SDC B,C,D,E, or F.		VCC 1705.13.1.1	Periodic		
Steel	Steel in SFRS for SDC B,C,D,E, or F other than above		VCC 1705.13.1.2	Periodic		
Wood	Wood in SFRS for SDC C, D, E, or F		VCC 1705.13.2	Continuous Periodic		
Cold Formed Steel	Cold Formed Steel for SDC C, D, E, or F		VCC 1705.13.3	Periodic		
	For SDC C,D,E, or F designated seismic systems requiring qualificaiton in accordance with 13.2.2 of					
	ASCE 7 shall be inspected to verify label, anchorage and mounting conform to the certificate of					
Designated systems	compliance.		VCC 1705.13.4	Periodic		
	Inspection is required for erection and fastening of cladding, interior and exterior nonbearing walls and					
Architectural	interior/ exterior veneer in SDC D, E, F.		VCC 1705.13.5	Periodic		
Access Floors	Anchorage of access floors in SDC D, E, or F.		VCC 1705.13.5.1	Periodic		
MEP components	Inspection of anchorage depending on application, SDC C, D, E, or F.		VCC 1705.13.6	Periodic		
	Materials used, to verify compliance with one or more of the material test reports in accordance with					
Storage Racks	construction documents. SDC D, E, or F.		VCC T1705.13.7 #1	Periodic		
Storage Racks	Fabricated storage rack elements SDC D, E, or F.		VCC T1705.13.7 #2	Periodic		
Storage Racks	Storage rack anchorage installation.		VCC T1705.13.7 #3	Periodic		
Storage Racks	Completed system, to indicate compliance with construction docs.		VCC T1705.13.7 #4	Periodic		
Isolation Systems	Systems in seismically isolated structures in SDC B, C, D, E or F		VCC 1705.13.8	Periodic		
Cold Formed Steel	Cold Formed Steel special bolted moment frames SDC D, E, F		VCC 1705.13.9	Periodic		
Testing	Structural Steel SDC B, C, D, E, F		VCC 1705.14.1	Periodic		
Testing	Nonstructural Components SDC B, C, D, E, F		VCC 1705.14.2		Note #2	
Testing	Designated Seismic Systems SDC C, D, E, F		VCC 1705.14.3		Note #2	
Testing	Seismic Isolation Systems SDC B, C, D, E, F		VCC 1705.14.4	Periodic		

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MATERIAL /	TYPE OF INSPECTION	Denvine 10	DEEEDENIOE	SPECIAL INSPECTOR/	RDP OF		
ACTIVITY	(RDP add lines as needed to identify other required items)	Required?	REFERENCE	TEST LAB	RECORD	OTHER	
FIREPROOFING (See Note #9)							
Spray-on	Physical and Visual Tests		VCC 1705.15.1	Continuous			
Spray-on	Surface Conditions		VCC 1705.15.2	Continuous			
Spray-on	Application		VCC 1705.15.3	Continuous			
Spray-on	Thickness		VCC 1705.15.4	Continuous			
Spray-on	Density		VCC 1705.15.5	Continuous			
Spray-on	Bond Strength		VCC 1705.15.6	Continuous			
Mastic/Intumescent	Mastic and Inumescent Fire-Resistant Coatings		VCC 1705.16	Continuous			
EXTERIOR INS	SULATION & FINISH SYSTEMS (EIFS)						
Coating	Water-Resistive Barrier Coating		VCC 1705.17.1	Continuous			
Materials	Manufacturer's Data		Specifications	Continuous			
Preparation	Condition Of Substrate		Specifications	Continuous			
Application	Methods, Proportions & Thickness Of Installation		Specifications	Continuous			
SMOKE CONT	ROL (see note #5)			SMOKE CONTROL			
Testing	Testing for Smoke Control		VCC 1705.19	Continuous			
Ducts	Device Location And Air Duct Leakage		Specifications	Continuous			
System	Pressure Difference, Flow Measurements & Detection Testing		Specifications	Continuous			
Controls	Control Verification, Activation Sequence		Specifications	Continuous			

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<u>NOTES</u>

- 1. Fabricator, supplier, ready-mixed plant or other production plant shall provide certificates from an approved independent inspection, testing or quality assurance agency attesting that the plant meets at least one of the following criteria:
 - a. The plant is a certified production plant meeting the quality assurance standards of a recognized national standards organization for that product.
 - b. The plant maintains an agreement with an independent inspection or quality assurance agency to conduct periodic in-plant quality assurance inspections. The frequency of these inspections shall not be less than one every six months.
 - c. The plant has an in-shop quality assurance inspection program by an independent testing or quality assurance agency for the work/product to be provided on this project.
- 2. RDP of Record shall review fabricator/supplier/producer certificates for conformance or compliance with appropriate standards of practice and quality assurance.
- 3. Contractor/supplier shall submit manufacturer's certificates of compliance for the materials/products as required by VCC 1704.5.
- 4. A/E shall review records and test results of all special inspections for conformance with requirements.
- 5. Special Inspection firm shall have expertise in fire protection engineering, mechanical engineering, and certification as an air balancer. The special inspector listed on the cover page and the Agency are responsible for verifying that the inspector(s) for smoke control is qualified as required by VCC 1705.19.2.
- 6. The Owner's structural observer shall submit a written statement to the UBO identifying the frequency and extent of structural observations as required by VCC 1704.6.
- 7. VCC 1704.3 requires special inspections for seismic or wind resistance. This statement of inspections shall identify systems or components that are subject to such special inspections or tests in accordance with VCC 1704.3.2 and 1704.3.3. The contractor shall complete, sign and submit the written statement of responsibility in HECO-6c prior to the commencement of work in acknowledgement of awareness of the special inspections as required by VCC 1704.4.
- 8. The RDP of Record shall determine the frequency of the special inspections (continuous or periodic) in accordance with the adopted codes and standards and shall be noted accordingly on this form.
- **9.** Inspections for sprayed fire-resistant materials, mastic, and intumescent fire-resistant coatings shall be performed during construction. An additional visual inspection shall be performed after the rough installation and where applicable, prior to the concealment of electrical, automatic sprinkler, mechanical and plumbing systems.